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Pu Workshop Letter

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Disclaimer

Auspices Statement

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Dear Lidia, Boris, Alexander, and Luis,

In preparation for the upcoming Pu Workshop in Livermore, CA, USA, during July 14 and 15, 2006, we have begun to give some thought as to how the meeting will be structured and what will be discussed. Below, you will find our first proposal as to the agenda and contents of the meeting. From you, we need your feedback and suggestions concerning the desirability of each aspect of our proposal. Hopefully, we will be able to converge to a format that is acceptable to all parties.

First, it now appears that we will be limited to three main sessions, Friday morning (July 14), Friday afternoon (July 14) and Saturday morning (July 15). The Pu Futures Meeting will conclude on Thursday, July 13. Following a social excursion, the Russian participants will be transported from Monterey Bay to their hotel in Livermore. We anticipate that the hotel will be the Residence Inn at 1000 Airway Blvd in Livermore. However, the hotel arrangements still need to be confirmed. We expect that many of our participants will begin their travels homeward in the afternoon of Saturday, July 15 and the morning of Sunday, July 16.

Associated with the three main sessions, we propose that there be three main topics. Each session will have an individual focus. Because of the limited time available, we will need to make some judicious choices concerning the focus and the speakers for each session. We will also have a poster session associated with each session, to facilitate discussions, and a rotating set of Lab Tours, to maximize participation in the tour and minimize the disruption of the speaking schedule. Presently, we are planning a tour of the Dynamical Transmission Electron Microscope (DTEM) facilities, but this is still in a preliminary stage. We estimate that for each session and topic, there will be time for five (5) speakers. We propose that, typically, there be three (3) Russian and two (2) American speakers per session. We also propose that each session have a chair (or two chairs), who will be given a small amount of time to set the stage for the upcoming talks and pose previously prepared, crucial questions. While this imposes a significant burden upon the session chairs, it seems to us that such an arrangement will

maximize the impact of each session. While some of the topics overlap with those at Pu Futures, we propose that there will be enough complementarity and amplification of specific topics that the overlap will be minimal.

Sessions and proposed topics and some possible speakers and chairs [It needs to be emphasized that the suggestions below, especially the possible speakers, are meant solely to stimulate discussion. Everything remains open at this point.]

Friday Morning, July 14
Dynamics of Aged Materials: Experiment, Theory and Simulations
This could include experiments such as shock compression and laser melting and atomistic molecular dynamics simulations of shock compression, shock melting and the pressure wave in aged materials such as Al with He bubbles. Some possible speakers include E. Koslov (VNIITF), Rusty Gray (LANL), Alison Kubota (LLNL), and Vladimir Dremov (VNIITF).

Friday Afternoon, July 14
Fundamental Physical Properties-Proposed Co-Chair: Jim Tobin
This session would include fundamental work on the electronic and magnetic structure of Pu at ambient conditions, with special emphasis upon the effect of spin orbit coupling in the Pu 5f states. Some possible speakers concerning electronic structure calculations include V. Anisimov (IMP-RAS, Yekaterinburg), M. Korotin (IMP-RAS, Yekaterinburg), A. Kutepov (VNIITF). Brandon Chung (LLNL) could talk about the relationship between the amplification of the resonance features in Pu 5f photoemission and the degradation of ordering with aging in Pu. Andy McMahan (LLNL) might speak of Ce DMFT calculations.

Saturday Morning, July 15
Aging Effects, Phase Transitions, and Phase Stability-Proposed Co-Chair: Bill Wolfer
This session could include discussions of densities, densitometry, TTT plots, and radiation damage. Of special interest is the 1975 work by Chebotarev concerning lattice parameter changes with aging and annealing. Lidia Timofeeva is probably the best candidate to discuss radiation damage and annealing. Kerri Blobaum is a possible speaker from LLNL.

Please let us know what you think about the workshop organization and the proposed sessions! Please provide specific suggestions for speakers, session co-chairs and session topics! (For example, are there other topics that we should include and should we expand to parallel sessions?) We need your input, including criticisms, at this crucial stage, in order to have an effective meeting. We look forward to hearing from you soon.

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